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Urban Growth and the Slum: Analyzing Redevelopment Through Tri-Sector Networks

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Urban Growth and the Slum:

Analyzing Redevelopment Through Tri-Sector Networks

*SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR
THE BACHELOR OF ARTS IN URBAN STUDIES*

VASSAR COLLEGE



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Table of Contents

Acknowledgements	2
Introduction	3
Chapter 1: Examining the Sectors	5
Chapter 2: Case Studies	18
Chapter 3: Policy Recommendations and Visual Supplements	34
Works Cited	40
Figures	43

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In all honestly, this thesis is a reflection of a sincere interest I have in the growth of the world's cities and how that will impact this planet's future. What you are about to read is one piece of a much larger discourse regarding the potential repercussions humans will face if we fail to reimagine the urban landscape from a global perspective and neglect to learn from marginalized communities. Tri-sector partnerships are one way in which neglected communities are empowered to develop efficiently and challenge conventions of human existence.

Introduction

The study of cities is today marked by a paradox: much of the urban growth of the 21st century is taking place in the developing world, but many of the theories of how cities function remain rooted in the developed world. There is much discussion in academic circles about whether the time has come to move from the Chicago school of urban sociology to the Los Angeles school of postmodern geography, and yet, as urban sociologist Douglas Massey recently commented, the urban future lies neither in Chicago nor Los Angeles; it instead lies in “Third World” cities like Rio de Janeiro, Mumbai, Hong Kong.¹

-Ananya Roy (2007)

As developing regions around the world rapidly urbanize and struggle to accommodate exponential growth, there will emerge a variety of methods for addressing pre-existing informal communities.² Some of these methods seek to revitalize impoverished areas in the hopes of boosting international acclaim and investment. Others seek to modernize in an attempt to provide citizens with a “city of the future.” Still others pursue redevelopment initiatives that focus on gradual internal redevelopment, placing value on citizen involvement. This thesis will focus on three specific housing redevelopment initiatives in Nairobi, Mumbai, and Rio de Janeiro, each exhibiting combinations of the aforementioned methodologies. This thesis is an attempt to shed light

¹ Part of what this thesis hopes to reveal is that tri-sector networks are part of the process of creating a system that avoids Western-centrism and looks to developing cities for answers to

² “Informal communities” is used as synonymous with slums/favelas in an attempt to reclaim informality as a potentially positive term and to encapsulate a larger concept than the typical association of a slum.

on the urgent (and growing) challenge of housing and infrastructure faced by many slums in cities of the global south.³ I will argue that successfully addressing this challenge requires carefully coordinated and balanced contributions from three sectors: the state, the private sector, and the non-profit sector (NGOs). By exploring a variety of examples, this thesis will attempt to answer the question: *How should sectors ideally interact for successful redevelopment?*

By identifying and analyzing the presence of each sector's involvement in each case study, I will argue that a correlation exists between a balanced and contextually sensible tri-sector partnership⁴ and successful, long-term redevelopment. I will start with the premise that slum redevelopment should, first and foremost, benefit those living in the area.⁵ A development strategy will be deemed unsuccessful if it applies mentalities of growth and advancement that are incompatible with the preexisting economic, social and physical limitations. Because some of the projects analyzed in the case studies are still in progress, this thesis will offer conjectures about project feasibility based on current available information.

³ "Cities of the global south" is used synonymously with the term "developing" or the more contentious "third world." The term is the result of the trend of particular cities in the southern hemisphere exhibiting tremendous urban growth during the last few decades.

⁴ The existence of tri-sector partnerships can sometimes be difficult to quantify. In some cases, all sectors are involved in a scheme at large, but do not necessarily work in tandem with one another on specific projects. In this thesis, I focused on instances where direct lines of contact between sectors were fostered in order to work together.

⁵ While this might seem obvious, there are a variety of sector interests at play that often take focus away from the main issue of providing residents with a better quality of life. For example, private focus on monetary gain, public desire for political recognition locally and globally, and NGO philanthropy for the sake of charity rather than deep-rooted investment in the community.

Chapter 1: Examining the Sectors

It is common knowledge that the world's urban population is growing exponentially. Globally, 3.5 billion people live in cities and that number is expected to double by 2050 (United Nations, 2013). Significantly less discussed, however, is the way in which the strict dichotomies that surround urban discourse create hierarchies and false expectations of what life in a city is meant to look like. These illusions are the result of the duality "global cities versus megacities". The global city, conceptualized by Jennifer Robinson (2002, pp. 547-548) as "First World command nodes of a global system of informational capitalism" is pitted against "the megacity of crisis; big but not powerful." This thesis will explore tri-sector networks as a potential response to this dichotomy by providing solutions to urban sprawl that are innovative, contextually sensible, and based on the specific issues of cities of the global south.

Before exploring the sectors and their roles, a brief discussion of urban informality as it is considered in this thesis is appropriate. The informal sector⁶ is often regarded as the result of negligence or lack of access to sufficient resources. In housing, this manifests itself in slums that typically lack formal land ownership and construction regulation. In economic terms, informal employment is viewed as falling outside of the modern industrial sector and lacking the security of the formal sector. In both examples, there is an assumed lack of agency on the part of the citizen. While this is often the case, it should not be generalized nor projected upon informality in a way that restricts its ability to solve unique problems of modern urban life. A countervailing view of urban

⁶ Informality is an extremely complex concept, and by defining it here I do not seek to limit its multi-dimensionality in the real world. Instead, I will establish a working definition specifically with regards to informal housing and the economic sector.

informality, one promoted by Dutch sociologist Saskia Sassen, posits that the modern informal sector is “a product and driver of advanced capitalism and the site of the most entrepreneurial aspects of the urban economy...” (Sassen, 2006, p. 48). While this typically manifests itself in developed countries, increased technological accessibility facilitates the participation of those in ‘developing’ regions of the globe. This technological globalization transcends physicality and adds a fourth dimension to global interactions. When it comes to slum redevelopment, the spatial ramifications of technological connectivity with relation to informality will need to be reassessed quite frequently as accessibility and literacy increases.⁷

While the technological advancements of the last few decades have drastically changed the physical structure of the urban environment, from the way humans interact to the places they live and the jobs they pursue, this chapter will begin by drawing on a seminal work from the mid-20th century. Advocating voluntary involvement in the redevelopment process is the 1972 book *Freedom to Build*, edited by John F.C. Turner and Robert Fichter. A particularly progressive and humanist work, this book explores the idea that citizen participation and control over housing is both a fundamental right as well as a crucial element of growth, particularly in the informal housing sector. Turner was an advocate of development from below, possessing “a benevolent view of communities, a hostile view of bureaucracies; and a favorable view of participatory and humanistic management as against scientific and coercive administration” (Turner & Fichter, 1972, p. 5). The editors posit that “...neither the shelter problem nor the manifold social problems of which it is a part can be solved by bureaucratically administered, politically

⁷ This is another topic for another time, but it illustrates the idea that it is increasingly difficult to distinguish between formal and informal and even “third” and “first” world cities with increased technological connectivity.

imposed programs” (Turner & Fichter, 1972, p. 6). Instead, “genuine housing values lie in the ability of dwellers to create and maintain environments which serve both material and psychological needs...” (Ibid). As Turner goes on to explain, individuals, particularly those living on the margins with socioeconomic constraints, are “experts in their own situation.” This is perhaps one of the most straightforward arguments for ‘bottom-up’ approaches to slum redevelopment as it highlights the multiplicity of potential living environments that can exist within one community.⁸ No one is more aware of their own spatial needs than individuals themselves, highlighting the need for a framework by which large-scale development can still be in touch with specific needs and pre-existing requirements.

Because slum clearance was so widespread during the 1970s (the decade that Turner wrote and published *Freedom to Build*) United Nations officials estimated that governments were destroying annually more low-income housing than they were building. At the same time, governments were already dealing with massive urban growth, particularly in the informal sector. Slum upgrading (as opposed to demolition and reconstruction) seemed to be the least expensive way to deal with growing urban populations as it provided rapid, short-term solutions. The World Bank upgrading projects averaged \$38 per household versus \$1,000-2,000 for a unit in a new housing development and \$10,000 for a low cost public house (Werlin, 1999, p. 1527). It also made sense from a social standpoint as it generally prevented violent responses from dwellers who would otherwise be forcibly removed under slum clearance projects.

Additionally, disrupting the preexisting social and ethnic support systems would decrease

⁸ By including Turner in this thesis, I am not advocating a bottom-up approach to slum upgrading. Instead, I am qualifying his fervent opposition to bureaucracy by identifying the public and private spheres as key players in the process of generating the citizen autonomy he discusses.

productivity and general vitality (Ibid). Economically, the cost of removing slums dwellers from their source of employment would also be a burden both for the individual and the municipality, which would have to find new ways to spur job growth. Because of the cost-effectiveness of slum-upgrading efforts, such programs were generally favored by governments and global organizations.

The initiatives of the World Bank did not seek to establish a framework by which developing cities could better house and employ growing populations – instead they carried out the reactionary procedure of fixing existing slums that *they* deemed problematic. Such broad reactionary projects were fundamentally flawed, indicative of shortsighted and high-minded policy making that lacked the pragmatism of tri-sector involvement. Worldwide, there are over one billion people currently living in slums. That number is expected to rise to two billion by the year 2030. Reactionary, Western-centric⁹ methods of slum upgrading will do nothing to improve this massive rural to urban shift. Instead, the entire discourse surrounding slums and informality in general will need to be reexamined.

The main takeaway from Turner's work and the historical precedent of the World Bank is that the solution to slums is not to demolish housing, but to improve the environment: "if governments can rid existing slums of unsanitary human waste, inadequate or polluted water and litter and filth from muddy unlit lanes, they need not

⁹ What I mean by 'Western' in this context is primarily the physical attributes of cities like New York and L.A., specifically with regards to an architecture dominated by verticality and 'modernity'. I acknowledge how complex the relationship between developing urban cities and Western 'culture' is, from the false conception that western thinkers have "all the answers" and are possessed with God-like master planning ability (Corbusier, Haussmann, Moses) or the notion that Western citizens have high levels of agency and individualism. These are all ideas to be saved for later exploration.

worry about shanty dwellings. Because ‘squatters’¹⁰ often showed great organization skill in their land management, they could be trusted to maintain the infrastructure that was provided” (Werlin, 1999, p. 1530). This theory demonstrates that, as the environment improves, most slum residents will gradually better their homes and living conditions, especially when encouraged by security of tenure and access to credit. Yet, it is only within a system wherein multiple sectors contribute their combined assets towards a common goal that slum-dwellers will ever be given the social, economic, and physical agency to maintain their own environment.

Despite Turner’s firmly held belief that human involvement and control is the key to progress, he still envisions the government playing a large role in this process, whether he accepts it or not. Clearing slums of existing waste and pollution and providing new resources is no small feat. While Turner is promoting a process that benefits from large amounts of participatory planning, it is still important to acknowledge the assets of local and state governments in conjunction with grassroots procedures. Rather than deeming one player more feasible or worthwhile than another, it is important that planners and policy makers acknowledge the assets that each entity can contribute to create more sustainable and insightful redevelopment. Each sector has its own benefits and drawbacks that vary based on the scenario. Additionally, the role and the capacity of each player change from region to region. When beginning to assess the methods of urban redevelopment, understanding these discontinuities will help developing cities create new methodologies that are specific to their region and system of government, rather than

¹⁰ Used here to mean any resident with an informal relationship to home and land. It is important to keep in mind that this can be the case for families who have occupied a dwelling for multiple generations without government recognized ownership and is not necessarily short-term.

being based on notions of government, informality, and civil society that don't unanimously apply.

At this point in our discussion, it would seem that there are two distinct methods for addressing slum redevelopment: the “bottom-up” approach whereby the “right to the city” is democratically restored and allows “collective power to reshape the processes of urbanization” (Harvey, 2008) and the top-down approach, whereby the solution to urban informality exists at a macro, ideally technocratic level of bureaucracy and global investment. This thesis will challenge this dichotomy and assert that the two modes are highly synthesized. Even Harvey concedes: “...at this point in history, this has to be a global struggle, predominantly with finance capital, for that is the scale at which urbanization processes now work . . . as this brief history shows, crises repeatedly erupt around urbanization both locally and globally...” (Harvey, 2008, paragraph 36).

The three sectors that this thesis will analyze are the public, the private, and the civil (also referred to as governmental, privatized and voluntary). Each sector exists at a unique and constantly shifting moment along the scale from micro to macro, making it difficult to define each as exclusively bottom-up or top-down in their approach. By acknowledging that even large-scale redevelopment schemes facilitated by foreign investment or governmental overhaul can create intensely micro moments at the level of the individual citizen, it becomes imperative that the seemingly local be viewed as part of a much larger process that includes the public and private sectors. In the same vein, local, isolated projects implemented by NGOs or community leaders have the potential to have international significance and provide solutions that are replicated on a larger scale. With

this more fluid framework in place, it is easier to foster an ambivalent view of each sector.

There's a trend of privileging specific sectors, particularly in theoretic and historical contexts: Hernando de Soto's emphasis on privatization, the Marxist focus on proletariat revolution, and the archaic example of a Roman idealization of democracy and senatorial dominance. I will adopt an agnostic view of each sector, allowing each to be analyzed on a case-by-case basis without preconceived hierarchies. While the strengths and weaknesses of each sector should always be taken into account, each new slum-upgrading project should be addressed without preconceptions that privilege a specific sector's roll. The privileging of a sector might emerge naturally as one player proves to be more capable of tackling a particular issue, but it should never be inherent.

In order for effective discussion and implementation to occur, partnerships must exist between the three sectors, including the urban poor themselves. This thesis will argue that the success of slum upgrading and urban renewal projects is contingent on balancing the role of these three key players with the intrinsic understanding that each new project presents a different scenario that requires a new equilibrium. In some scenarios, the role of the state might be particularly important in order to leverage a range of utilities to a particularly community. Another scenario might benefit from a well-funded and highly involved NGO in order to combat a corrupt local government. In either scenario, however, it is still important that no single player completely dominates the process of development.

Strengths and Weaknesses of the State, Private, and Voluntary Sectors

The State

Part of establishing an inter-sector network requires understanding the proficiencies and drawbacks of each player. National and local state governments, for example, are useful because of their massive scale. Governments have the capacity to exist outside of market constraints and undertake projects with considerable financial and technical support (Otiso, 2003). They play a significant role in the provision of services and urban housing. In Sub-Saharan Africa specifically, states are required by law and social contract to provide services in return for political support from their constituents (Therkildsen and Semboja, 1995; Wekwete, 1997). The state sector has the potential to meet the needs of the poor if they properly allocate their resources and refrain from creating hierarchies within the society they serve by focusing on a specific region and neglecting another. The state has the capacity to garner the financial, administrative, and technical resources needed to undertake large-scale projects. Its relative freedom from marketing constraints and “its ability to influence other housing and service providers to achieve its objectives” makes the state particularly powerful and expansive (Otiso, 2003, p. 223). The state is necessarily the most important and consistent player in urban reform as questions of legality typically dominate the discourse of slum redevelopment.

One major issue with the state sector, however, is that it is required to provide housing and basic services to a large and rapidly growing population. Often, governments are unable to meet this demand and in some cases they deliberately refrain from providing services to “control the proliferation of shanty areas or to exclude the poor from urban areas” (Otiso, 2002, p. 222). The main drawbacks of the public sector,

especially within developing cities, are rigidity, bureaucratic formality, elitism, and global centrism. Six major issues that often result from state dominance in redevelopment projects are listed below:

- An inflexible, hierarchical administrative structure often unable to respond to the unique needs of the urban poor (Otiso, 2000)
- Misallocation of resources due to corruption and nepotism
- The need for incentives to build affordable housing (Vakil, 1999)
- Its inability to deal effectively with informal groups (Vakil, 1999)
- Its frequent lack of depth in broad- or large-scale projects
- Its domination by elite groups using their political power for self gain (Syagga and Kiamba, 1992)

The Private

The private sector generally consists of two components: the formal private sector and the informal private sector. The formal sector includes housing and infrastructural development corporations as well as service providers like electrical and waste-management companies. In some instances, as is the case with São Paulo's SABESP, basic services are municipally owned and distributed. SABESP, a Brazilian water and waste management company owned by the state, is the largest waste management company in the world by market capitalization, providing water and sewage services to residential, commercial, and industrial users in São Paulo.

Formal private corporations can vary in size and are typically registered and owned by professionals. Today, many private companies are contracted by governments and affluent urban communities to provide housing, infrastructure or other basic services. The main drawback with the private sector with regards to slum redevelopment is that they are controlled by financial considerations and will rarely provide housing and urban services to poor communities because of the lack of profit. Under certain conditions,

however, the private sector can provide basic living needs to a large segment of the urban population. These conditions include:

- A thoughtful, competitive private sector
- The potential for profitmaking
- The presence of knowledgeable consumers who can hold the sector accountable and help it maintain standards
- The subsidization of poor consumers
- The use of clearly defined contracts specifying geographical coverage, frequency, performance and achievement standards
- The presence of competent municipal governments with the capacity to enforce contract fulfillment and to substitute services when contractors fail to deliver (Schubeler *et al.*, 1996, Davey, 1993, and Obudho, 1997)

The informal private sector, on the other hand, consists of small, unregistered, and unregulated housing and service providers. Economist Hernando de Soto would call these “production units” examples of entrepreneurialism without adequate representation. Due to the limitations of capital, skill, and equipment, most needs provided by the informal private sector are concentrated in slum settlements. The informal economy is filled with entrepreneurs who necessarily look to the private sector. The informal economy is, in essence, a would-be private sector being hampered by irrational, traditional, and highly corruptible systems of property representation. It is a sector that forms out of necessity and can be better visualized as a system whereby the poor can help the poor. Even among the poor, however, the informal sector still caters to those who are able to pay for its services. A growing segment of slum and squatter populations are still unable to pay for informal sector urban needs, a reason behind the growing importance of the nonprofit, voluntary sector as an alternative.

Another issue with both the formal and informal private sector is that they focus on profitable services, like water vending and recycling collection. An issue perhaps with

market economics in general, these non-essential, yet lucrative services take focus away from the essential services like sewage and wastewater management. A third, less obvious issue with the informal sector is that the services they provide are often inferior and more costly than the regulated sector. The supply of such basic services only emerges to serve a demand that can pay. Paradoxically, the poor might end up paying more for informal access to water because they are in such a neglected area. If well regulated and balanced with preexisting housing and service provision arrangements, the informal sector is a feasible way to meet the poor's needs.

The Voluntary

The newest player in urban housing and service needs is the voluntary sector. In his book *The Nonprofit Sector*, Walter W. Powell defines a nonprofit organization as one that is “precluded, by external regulation or its own governance structure, from distributing its financial surplus to those who control the use of organizational assets” (Powell, 2006, p. 8). Powell posits that the emergence of non-governmental, not-for-profit organizations emerged as a response to the failures of other sectors. In fact, each sector (defined by Powell as nonprofit, for-profit, and government) is a response to “failures to deliver the appropriate quantity or quality of services or to make those services available to appropriate constituencies” (Powell, 2006, p. 9). If we accept the validity of the principle that each sector is a response to another sector's inadequacies, then there is an inherent connection between each player that can never be disregarded. This will be further explored in *Chapter 3: Policy Recommendations and Visual Supplements*.

The voluntary sector functions by meeting the needs of very specific constituents. While this sector is very diverse, this thesis will focus on such organizations that exist solely to improve welfare among the urban poor, namely NGOs (non-governmental organizations). The successes of NGOs in some isolated cases have granted them the right to spearhead projects (Cernea, 1988). However, there are many issues with giving them administrative rights for larger projects. First, their successes are overestimated and the contributions of voluntary organizations are poorly understood, making it difficult to know which organizations can do what and where. Additionally, NGO activities lack a broad programming context resulting in limited project replicability, self-sustainability, technical capacity, and impact (Cernea, 1988).

Given the monetary restrictions of NGOs, their small-scale programs often result in “under-financed, poor quality, insignificant, temporary, and unsustainable projects” (Otiso, 2002, p. 224). Because of NGOs’ inherent lack of political associations, they tend to be powerless and socially disconnected when it comes to the implementation of large-scale project development. Another significant issue is the assumption that NGOs serve the community’s best interests and are somehow a manifestation of the community. They have the potential to be just as flawed as large government entities. Finally, although NGOs heavily criticize dictatorial governments, few of them are accountable, transparent, or democratic (Otiso, 2000).

NGOs, unsurprisingly, fill the gaps created by governmental setbacks. NGOs offer flexibility and a predisposition to adaptation based on specific local scenarios. They have the ability to take risks and experiment with innovative approaches to problem solving. They often possess a better rapport with local populations and are more

accessible from a communal standpoint. They act as an important liaison between the public sector, the private sector and the community they serve.

Tri-sector partnerships for housing and service provision are crucial in slum redevelopment for two fundamental reasons. First, such partnerships allow participants to transcend the boundaries of traditional discourse by approaching redevelopment in novel and highly considered ways. Second, they leverage the combined resources of an array of sectors and apply them towards a common goal. Inherent in this perspective is the notion that no sole entity can single-handedly solve issues of poverty.

Chapter 2: Case Studies

With an understanding of the strengths and weaknesses of each sector, this chapter will analyze three unique case studies that have been recently completed or proposed. Each case study is unique in location, scale, budget, and sector involvement. The cases are organized chronologically, beginning with Mathare 4A in Nairobi and concluding with the recently proposed Morar Carioca redevelopment plan in Rio de Janeiro. By providing a wide range of examples, this thesis aims to emphasize the importance of contextualizing each redevelopment scheme in a specific social, political, and economic environment, requiring a unique approach to redevelopment and upgrading. At the same time, it will seek to accentuate the importance of creating a balanced tri-sector relationship regardless of the scenario.

Mathare 4A (Nairobi, Kenya)

The first community is Mathare 4A, a slum located 4 miles northeast of downtown Nairobi (figures 1.1 and 1.2). Established as an agricultural settlement in 1921, it is one of the city's oldest slums. The area slated for redevelopment was located in a swampy valley on the banks of the Mathare River, hidden behind more formalized housing on higher ground (figure 1.3). It was particularly vulnerable to flooding and landslides and few residents owned their own homes. Today, roughly one-third (15 million) of Kenya's population currently lives in cities and by 2030 the urban and rural populations are expected to be at equilibrium at around 30 million each (World Bank, 2013). The growth of slums like Mathare in tandem with this urban growth has increased in Kenya for a variety of reasons. As over-urbanization and rapid population growth

occurred, the need for residential development naturally increased. The shortage of decent, low-cost housing led to the development of informal squatter settlements. Typically adequate housing would only go to those able to afford it, furthering hierarchical rifts within the marginalized population (Kamau and Ngari, 2002, p. 5).

The redevelopment proposal for Mathare 4A was the result of a strong partnership between the state, voluntary and private sectors. The project was designed to encourage a maximum degree of self-sustainability and discourage displacement upon upgrading, both issues that drastically reduced the impact of previous redevelopment projects. The goal of the program was to improve the general living environment in the area through provision of urban infrastructure, socially acceptable housing, and adequate access to public utilities (Kamau and Ngari, 2002, p. 10). The program beneficiaries are the residents in the entire slum area especially those without adequate housing and other basic amenities. The program made special considerations to ensure that housing would still be affordable to the beneficiaries once the project was completed.

The governments of Kenya and Germany are the most significant players in the public role. Combined, they provided \$6.4-7.5 million in (Kamau and Ngari, 2002, p. 5). Additionally, the Kenyan government granted the project the use of relaxed building codes. Perhaps not ideal in parts of Nairobi's downtown or tourist enclaves, these relaxed codes are crucial concessions to allow for cheaper housing and construction costs in Mathare. Some of the specific allowances include smaller rooms, higher population and housing densities per hectare, and the use of non- conventional building materials such as non-concrete building blocks (Kamau and Ngari, 2002). By keeping the construction costs down in this manner, housing prices can remain affordable, limiting displacement.

In addition to the public sector, four private sector participants contributed closely to the project. Three of the four players - Gitec Consultants, Keyplan Consultants, and Birdi Civil Engineers - were responsible for ensuring that redevelopment was done in a safe, lawful and sustainable way. The fourth participant, Wabere Construction, was responsible for actually building the physical infrastructure. The two major NGO participants in the project are the Catholic Church and Approtec (Appropriate Technology). The church served as a community mobilizer and project implementer as well as a liaison between the community and other actors. It was the church that persuaded the Kenyan and German governments to contribute funding and lower construction standards. The German government, provider of most of the funds, insisted that the church be the implementing agency as the Kenyan government had a poor track record of adequately utilizing donor funds. The church's affiliate, the Amani Housing Trust, was responsible for running the project and was given additional land titles from the Kenyan government.

Approtec, the second NGO, helped research and produce low-cost bricks and tiles (Kigochie, 2001). By putting such a crucial element of the housing upgrading process in the hands of an NGO, the project avoided being controlled by the commercial and monetary interests of the private sector. In addition to receiving the upgraded housing facilities, community members were also able to contribute their own money, labor, and even political support on the occasions that slumlords threatened the success of the project. This personal investment in the process is a particularly notable strength of community involvement. Investing time, labor, and monetary capital in the process

creates a particular type of homeowner who is invested in the safety and wellbeing of his or her community.

The first phase of the project was initiated in May 1992 and completed in September 1996 with a total cost of \$3.75 million. The project resulted in the construction of 1,500 new rooms that replaced temporary structures. The houses were constructed using Stabilized Soil Blocks and 1,700 households (approximately 11,000 people) had access to potable water, sanitation facilities, roads, footpaths, street lighting, and garbage collection points (Kamau and Ngari, 2002). The second phase was the main program. It covered 4,300 households at a projected cost of 420 million shillings (\$13 million).

Finished in the early 2000s, the project showed immediate results that can be directly correlated to the existence of a tri-sector partnership. First, rent cost in the region has been maintained despite improved housing quality and infrastructural development (roads, sewage, walkways, and storm drainage). This can be linked to the fact that the Amani Housing Trust ensured better maintenance and affordability than private slumlords while still receiving the benefits of government support. Displaced landlords were even compensated despite the fact that their structures were built on illegally occupied land (Kamau and Ngari, 2002, p. 8). Additionally, the project transitioned from tenant-purchase to renter-occupied schemes, which helped avoid the re-sale of new homes, which would have caused rent and sale prices to rise. While this was unpopular to those who already put effort into owning their own homes, it was a crucial part of keeping housing affordable and holding the housing trust responsible for maintenance.

Additionally, the project achieved virtually no displacement thanks to efforts made by all three sectors. Firstly, structures would only be demolished after new units had been constructed or else residents were accommodated in temporary structures. Secondly, rent-collection programs were flexible and allowed tenants to create specialized payment plans, something that housing developments run by faceless municipal governments are unable to do (Kigochie, 2001). Thirdly, strict procedures were put in place to ensure that only preexisting residents of Mathare would be eligible for upgraded units, preventing those of higher socioeconomic from taking advantage (Kigochie, 2001). Lastly, residents were legally obliged to participate in the project before their homes would be upgraded.

Mathare 4A Conclusions

The redevelopment of Mathare 4A demonstrates the importance of participatory approaches in slum upgrading projects in tandem with a system of checks and balances resulting from tri-sector involvement. Two key factors responsible for its success are partnership with all stakeholders and strong levels of transparency between different project managers and the population at large. The physical successes of the project are as follows:

- Improved sanitation, security and environmental quality
- Better standards of living
- Better housing and use of appropriate technology
- Improved infrastructure
- Capacity building among residents in maintenance of program facilities, education and discussions on social matters, and conflict resolution (Otiso, 2003, p. 227).

Despite the general success of the project, there were negative responses that emphasize the difficulty of transitioning to formal infrastructure and social networks even within a successful tri-sector network. Problems with the project after completion are as follows:

- Residents are not allowed to keep animals for sale
- Family size is not considered in regard to allocation of rooms and there is overcrowding.
- People's views are not fully considered even though the management seeks their opinions
- The residents felt that a large percentage of people are employed outside the project area. Some social groups have broken up due to relocation of people.
- Some new homes were poorly constructed with obvious cracks and FCR tiles are of poor quality and allow dust into the housing units (Kamau and Ngari, 2002).

Despite these drawbacks, the Mathare 4A project truly eclipsed other upgrading initiatives in Kenya, demonstrating the efficiency of establishing tri-sector partnerships. Most of the problems faced over the project's duration were caused by external forces, like discontent from landlords, rather than forces within the project itself. The program was very flexible and was able to quickly respond to the needs of the people (Kamau and Ngari, 2002). It took into account the pre-existing networks and coping mechanisms of the community, a direct reflection of NGO and church-based community involvement. The project attempted to improve the living environment of over 30,000 residents (Kamau and Ngari, 2002, p. 7). and most of the interviewed residents were satisfied.

Dharavi (Mumbai, India)

This case study adheres the least to the principle of tri-sector involvement as a result of political attitudes and monetary incentive. As Mumbai continues to deindustrialize, the state has become decidedly less accepting of slums. The government has little tolerance for unprofitable informal communities particularly as land values

continue to rise in the city's peripheral communities. As global investment becomes both accepted and encouraged, this urge to promote land speculation and make property a valuable global market has dramatically increased. These changes in real estate development are evident in the Dharavi Redevelopment Project, approved by the state in 2004.

Dharavi, situated between Mumbai's two main suburban railway lines (the Western and Central Railways) is arguably the largest, most densely populated slum in India (figures 2.1 and 2.2). Its population is estimated to be between 300,000 and 1 million inhabitants living in mostly low-rise structures (figure 2.3). Despite high population density, Dharavi provides cheap housing in an otherwise expensive metropolitan area. In 2006, rents were as low as \$4 per month. Beginning in 1997, there have been plans to carry out large-scale redevelopment. The encouragement of foreign investment attracted companies from around the world including Lehman Brothers, Dubai's Limitless, and Singapore's Capitaland Ltd.

The first major redevelopment proposal prior to 1997 was developed in 1985 by the then prime minister of India, Rajeev Gandhi. It gave the city of Mumbai 1 billion rupees, roughly \$16 million by today's exchange rate, to improve infrastructure. A third of the total funding was given to Dharavi and during the succeeding decade, a unit known as the Prime Minister's Grant Project (PMGP) was set up within the Maharashtra Housing and Area Development Authority (MHADA), giving the authority singular responsibility for planning and redevelopment. This decision emerged from the concern that "institutional fragmentation, competing agendas, and the absence of clear leadership had undermined earlier housing programs" (Sharma, 2000). This delegation of power to

one autonomous public entity is the antithesis of the tri-sector plan developed in Mathare 4A. Much of the conflict around the PMGP's redevelopment plan came from disputes regarding the enumeration of the Dharavi population. This is a common drawback to state dominated procedures as data collection can only be done in clinical and imprecise ways. Realizing that their previous techniques for population estimation were flawed, the PMGP adopted an aerial survey method. This process was imprecise and based population estimates solely on aerial photographs of dwellings.

Although the PMGP's interventions were designed to improve and ultimately remove slums from Mumbai, they ended up having the opposite effect (Weinstein, 2014). Each of the interventions, whether service provision or infrastructural renovation, ended up furthering hierarchies within the community. Stratifications by "location, length of residency, and possession of documentation exacerbated vulnerabilities and ultimately deepened residents' dependence on politicians, NGOs, and neighborhood big men" (Ibid). Although this dependency might seem like a potential tri-sector collaboration, it is exactly what reduces the agency of the individual. The goal of successful tri-sector collaboration is that it leaves the resident with a clear understanding of party responsibility and thus accountability. Instead, Dharavi's redevelopment convoluted the system of accountability whereby residents found themselves having to plead to specific actors rather than interacting directly with specific sector representatives.

In this way, Weinstein argues that the proliferation of slums and the exacerbation of their conditions is often the result of "bureaucratic weakness and political fragmentation." (Weinstein, 2014, p. 114). Despite the involvement of often well-meaning and generally capable players, Weinstein explains, "shortfalls of resources and

political authority undermined each slum scheme. Without clarity about which agencies or levels of government were authorized to design and implement appropriate housing intervention, each program suffered from unclear and inconsistent objectives, competing agendas, and a lack of coordination” (Weinstein, 2014).¹¹ Even with tri-sector involvement, a clear breakdown of tasks must be established early in the planning process.

The newest Dharavi plan is an extension of a proposal by Mukesh Mehta, a Mumbai-born architect and property developer now based in Long Island, New York. In the late 90s, Mehta saw the lucrative potential of slum redevelopment in “new India” as property markets continued to increase in value. Mehta was determined to redevelop the entire 535-acre settlement of Dharavi by rehousing the area’s residents in high-rise buildings along the settlement’s periphery, while building luxury communities and offices (along with a golf course) in the interior (figure 2.4). He soon came to realize that he would be unable to be the sole financial sponsor of the project and sought additional funding. By 2004, Mehta was able to secure state support for his proposal. In a cabinet meeting in February 2004, Chief Minister Vilasrao Deshmukh committed his political support to the plan to redevelop Dharavi’s housing, infrastructure, and commercial spaces (Weinstein, 2014, p. 109). “As Mehta stood at the podium, detailing the DRP in a PowerPoint presentation complete with color coded land-use maps and catchy acronyms, the meeting resembled the launch of a new product more than a cabinet discussion of a low-income housing program” (Weinstein, 2014, p. 109). This cabinet meeting revealed the new objectives of the redevelopment initiative, spurred by recent economic and

¹¹ This lack of sector distinction and clarity will be discussed in Chapter 3 with the discussion of a potential fourth sector.

political shifts. The plan no longer represented a tailored, thoughtful approach to sustainable redevelopment but rather a broad, internationally funded proposal for widespread economic investment opportunity.

The official proposal endorsed in 2004 divided Dharavi into ten sectors of roughly equal size. Each sector would house its current population and much of the pre-existing commerce and industry. Eventually, the number of sectors was reduced to five due to both political and technical issues. The approved plan gave each household deemed eligible for rehabilitation an apartment in a mid- or high-rise building located in the same sector (Weinstein, 2014, p. 110). All apartments would be 225 square feet, made up of a main room, kitchen, and an attached bathroom. The plan didn't take into account the size of residents' pre-existing homes. The goals of Mehta's plan were to: (1) improve the living conditions of the slum dwellers and maintain their occupations, unless they are environmentally hazardous (2) create a plan in which Dharavi will be rebuilt as a new urban center (3) develop a feasible scheme that will benefit all stakeholders of Dharavi (Weinstein, 2014, p. 109).

There's a counterproductive and potentially harmful¹² discourse at play here that frames progress as synonymous with an adherence to the physical structure of Western urban centers. After Mehta's proposal gained support in 2004, politicians and bureaucrats made the statement that "Mumbai would be transformed in Shanghai", which became the rallying cry for Maharashtra's Congress Party (Weinstein, 2014, p. 115). This sense of national pride and international competition is at odds with the ideology of individualized

¹² From the author's perspective, this trend is harmful because it decontextualizes the discourse and applies methodologies that are not site-specific. While certain aspects of the "Western" model can provide useful templates for development, slum upgrading should never be a decision that's based primarily on aesthetic conformity.

solutions to solve unique housing dilemmas. The latter creates an environment of ingenuity with a final product that is a direct reflection of novel approaches to unique contexts. The former, on the other hand, is focused on sustaining an appearance rather than providing a better quality of life for those in need.

The result is that Mehta's plan completely fails to take into account the pre-existing social and economic framework of Dharavi. Ground floor space, for example, is a crucial asset to many of Dharavi's self-employed residents. One potter and resident of Dharavi interviewed by New Delhi Television Limited in April of 2009 explained that while he lived on the second floor of a building, "we have open space and podiums on the ground for our potters to work." Under the new development, residents would lose access to the informal economy through the formalization of physical structure. While Mehta's response is that the project will actually create more open space and interconnectedness, it is hard to envision such large scale informal business taking place on the streets of "the next Shanghai."

There is a larger issue at play here as well: the very ideology of the term redevelopment. Lutz Konermann, a Swiss-born filmmaker, worked in Dharavi in 2005 on a project to portray the slum, its people, and its struggle. "I very much regret the term 'redevelopment'," Konermann says. "Redevelopment is very presumptuous I think because it says something has developed in the wrong way or has to be changed into something different. Why redevelop Dharavi? Develop Dharavi, or help it develop itself" (CNN, *Why Dharavi Should not be Redeveloped*, 2011). This is the crux of the problem with Mehta's proposal. It views Dharavi as so backwards that only massive overhaul is the only solution. It doesn't come close to acknowledging that Mumbai would not have

developed as quickly as it did if it weren't for the services provided by Dharavi's residents.

Dharavi Conclusions

Mehta is clearly a driven individual who is very invested in Mumbai's physical and economic development. Ultimately, however, he is a political entrepreneur whose measures of success "did not include benchmarks for development or the well-being of Dharavi residents, only that the deals had been made" (Weinstein, 2014, p. 122). Mehta is the human manifestation of Dharavi's redevelopment, caught between global imperatives and local struggles. He is a salesman more than an urban planner, and while that is useful in terms of garnering support, it commodifies Dharavi and its residents. Additionally, it is important to acknowledge that even democratically elected leaders are all embedded in circuits of global elites, often obfuscating their relationship with the local. This often leads to the importation of ideas that advance the interests of external corporations and Western ideals. Physically, it leads to an adherence to Starchitecture that is spectacular rather than pragmatic, as was clearly the case with Mehta's importation of Western aesthetics that served external interests more than anything else.

A decade after the proposal was first announced in 2004, the promises made have yet to be fulfilled. It seems that the competing agendas of international development and "the right to stay put" (Weinstein, 2015, p. 167) must first be reconciled before progress can be achieved. What this stagnant project also illustrates is the inextricable tie between urban life and the slum. The slum cannot be so easily demolished and rebuilt as it provides a flexibility that much of the world's urban cores cannot offer. Instead, there

needs to be a recognition of the unavoidable nature of informality, particularly as cities continue to grow beyond the capacity of formal infrastructure.

Informal housing is a crucial element of peoples' lives, not only as a use value but also as an exchange value. Because of the lack of regulation or formalized planning, informal housing is very affordable. In many parts of the world, it is informality that is completely responsible for cities' ability to expand and grow. The incorporation of peripheral communities and small towns into one dispersed metropolitan region creates "a complex hybridity of rural and urban functions and forms." Included in Turner's *Freedom to Build* is a chapter entitled "Planning for Invisible People: Some Consequences of Bureaucratic Values and Practices", written by Peter Grenell. Although published in the 1970s, Grenell's criticism of the bureaucratic tendency to dehumanize the poor is particularly relevant to the discussion of slum upgrading in Mumbai. Criticizing development projects that are poorly informed and lack humanism and nuance, Grenell warns:

...leaders of both the United States and India believe problems can be solved through modern technology and organization if sufficient resources are available. A fundamental consequence of this optimistic view is an underestimation of the variability and complexity of human needs, and also of the great resource represented by the people themselves." (Turner, 1972, p. 35)

When broad programmatic solutions are created to swiftly combat a vast array of social issues in a variety of circumstances, as was the case with Dharavi, the resulting process quickly dehumanizes the individual. "It is only when invisible people have made

their presence felt, through political agitation or sheer force of numbers, that governments have been compelled to recognize their existence and to institute new or revised goals and programs. This is true in India with its islands of affluence amidst a sea of poverty” (Turner, 1972, p. 60).

Morar Carioca

Rio de Janeiro is the second largest city in Brazil and the sixth largest city in the Americas. The metropolitan area of Rio is the sixth most populous in the Americas and the eighteenth largest in the world. Rio is located on Brazil’s most eastern Atlantic coast, roughly 220 miles northeast of São Paulo, the most populous city in both the country and the continent (figure 3.1). Like the other countries that this thesis analyzes, a main feature of Rio’s social composition is the significant disparity between the rich and the poor. Although the city clearly ranks among the world’s major metropolises, three fifths of its inhabitants live in neighborhoods known as *favelas* where housing is not regulated. In the favelas, 95% of the population resides below the poverty line, compared to 40% of the general population.

The final case study, Morar Carioca, is the most extensive of the three case studies. Focusing on Rio’s marginalized, peripheral populations, the plan aims to upgrade all favelas in the city by 2020 (figures 3.2 and 3.3). The announcement for the new program by Mayor Eduardo Paes was made in conjunction with discussions of the 2016 Olympics, which is prompting government action on widespread housing reform (Catalytic Communities, *Morar Carioca*, paragraph 3). The program has a budget of R\$8 billion (roughly \$2.79 billion USD) and is based on a formal partnership with the Brazilian Institute of Architects (IAB). The IAB was responsible for the design of Morar

Carioca's predecessor, Favela-Bairro, the upgrading program of 1994 to 2008. In hindsight, Favela-Bairro did little to improve the quality of housing in favelas and the new Morar Carioca program was established in part to remedy this shortcoming. Under the new program, the IAB is responsible for arranging the upgrades of favelas with over 100 homes (RioOnWatch, 2014).

Four years after the announcement of Morar Carioca, there is virtually no sign of any new development, other than the occasional PowerPoint presentation by the mayor's urban advisors. One potential reason for the delay is political gridlock, a severe drawback of the public sphere. Many initiatives in Rio that have been successful in recent years were the direct manifestation of "a rare aligning of interest between Mayor Paes and the state governor Sérgio Cabral, both members of the centrist PMDB party." (RioOnWatch, 2014). After widespread protests in the country as a result of transportation fare-hikes and various short-sighted redevelopment schemes, the Workers' Party is gaining popularity. The mayor is concerned that the rival party will get credit for his own work if Morar Carioca is initiated under his administration. This bipartisan "point-scoring" system is responsible for an overwhelming number of stalled redevelopment programs in Latin America, living evidence of an imbalance of multi-sector involvement in the region.

That being said, the Morar Carioca program is quite progressive on paper. Learning from the failures of previous initiatives, Carioca pledges to carry out large-scale upgrading of public works (the improvement of water and sewerage services, drainage systems, road surfacing, street lighting, the provision of green areas, sports fields, recreational areas, and the construction and equipping of social service centers) (RioOnWatch, 2014, paragraph 7). The program will reach 815 favelas and will allegedly

be more tailored to specific community conditions than previous initiatives. Additionally, Morar Carioca is the first state program with an explicit requirement of resident involvement in the planning process. It guarantees the right to “the participation of organized society . . . in all stages of Morar Carioca through assemblies and meetings in the communities” and through the “presentation of works and debates open to the participation of civil society and citizens” (Catalytic Communities, *Morar Carioca*, paragraph 5).

Morar Carioca provides an important alternative perspective to Dharavi’s redevelopment scheme that is primarily concerned with international competition and economic gain. Carioca, in theory, explicitly acknowledges that favelas were created in response to a lack of adequate public housing: “the historic absence of housing policy made informal production and self-building the alternative through which the lowest income population attended to its housing needs, and that informality ceased being the exception and became instead the rule for the majority of this population.” In a 2012 TED talk, Eduardo Paes, mentioned that “favelas can be a solution.” Perhaps the antithesis of Dharavi’s ideology, Paes went on to say, “You don’t always have to be rich and powerful to get things done . . . you can find original ways.” Morar Carioca is fundamentally invested in engaging with favela upgrading in a participatory way with the understanding that favela-style development is a valuable urban form for the city. The online news site, RioOnWatch, cites Morar Carioca as a potential answer to the question “how are we going to deal with the third of humanity who will live in urban informal settlements by 2050?” Paes’ response is, “a city of the future has to be socially integrated”, a commandment that Mehta doesn’t come close to addressing in his redevelopment plan.

Chapter 3: Policy Recommendations and Visual Supplements

Slums exist and will continue to exist as long as cities continue to grow. Slum redevelopment is not about converting ‘informal’ landscapes into inaccessible references to urban modernity. This thesis posits that the next step in developing a pro-slum framework¹³ is the development of a discourse whereby characteristics of slums are viewed as unique moments that offer innovative solutions to specific inadequacies rather than a universal squalor that needs to be addressed. While it is important that peripheral communities are well-integrated into the formal sector¹⁴, they must be treated as separate entities that require unique and attentive methodology.

Highlighting this ideology is the work of urban theorist and journalist Theresa Williamson, founder of the think tank and advocacy NGO Catalytic Communities. Rather than seeking ways to redevelop and reengineer favelas¹⁵, Williamson makes it clear that the solution is to gradually and sustainably provide them with resources so they can develop from within in a way that gratifies their strengths and unconventionality. This argument is very much in tune with Turner’s perspective of improved infrastructure rather than massive overhaul. While Turner would likely favor the voluntary sector over a tri-sector network, the outcome of multi-sector involvement is a community that is self-sustainable.¹⁶

¹³ Pro-slum framework is used here to mean a template by which slums can genuinely be part of a solution to urban growth rather than a negative outcome.

¹⁴ The formal sector is an important method of job creation. Employment should be viewed as the system for distributing wellbeing through income rather than distributing income through government services.

¹⁵ Williamson and Catalytic Communities are focused and located in Rio de Janeiro, hence the discussion of favelas rather than slums more generally.

¹⁶ The Mathare 4A project, for example, was designed to encourage a maximum degree of self sustainability through a tri-sector network that held players accountable and empowered community members.

Additionally, the informality associated with favelas, and slums as a whole, allows for a variety of benefits not available in more formalized housing sectors. Favelas are typically situated near work, have low-rise housing density, offer mixed-use spaces, are pedestrian oriented, promote bicycles and transit, and stimulate a high rate of entrepreneurship (Williamson, 2014). Many of these benefits are lost with large-scale housing developments. Regardless of how nuanced the approach is for trickle-down projects, the transition to formalized services and vertical growth is intrinsically at odds with the traditional spatial and economic framework of the average slum resident.

The main political challenge with regards to slum upgrading is assigning these tasks and making sure there is a shared objective. As was seen in the aforementioned case studies¹⁷, one major problem, even when all sectors are present, is clarity and strict delegation of tasks. The disconnect that stems from inconsistent agendas seems to necessitate an objective fourth party that can designate specific goals and constraints. The main policy recommendation of this thesis is that a fourth sector emerges as a culmination of all three aforementioned sectors. That is, decisions to upgrade housing or infrastructure can only be made during instances of adequate representation from all parties. In this way, a fourth, highly self-accountable group emerges. This is decidedly idealized and assumes the common goal of bettering physical infrastructure, improving job security, and generally increasing quality of life. These might not always be unanimous goals, but with this proposed system that necessitates unanimity, slum upgrading will ideally shift to a process that values concession and reinvention as an

¹⁷ Particularly with Dharavi as an example of bureaucratic weakness and political fragmentation.

important part of development. All parties must be ready to make concessions with the understanding that progress requires constant reimagination and reworking.

On a general level, each sector carries out various tasks within slums as a whole and this recommendation is not an attempt to complicate basic undertakings. Instead, it is a proposal to establish a framework for communication and transparency when large-scale redevelopment schemes are initiated. Even if the result is that one sector is deemed best suited to carry out the project singlehandedly, the process of decision-making with adequate tri-sector representation is crucial.

Another defense of this ‘fourth sector’ links back to the aforementioned *three-failures theory* in which the sectors exist to fill in the gaps of one another’s inadequacies (Powell, 2006). In this way, each sector already exists as part of a larger puzzle that is incomplete without adequate representation from all parties. It is important that planners adopt the viewpoint of sectors being complimentary rather than in competition. If the sectors are viewed as somehow in opposition, the discourse quickly degrades to inter-sector relations rather than effective problem solving. Figures 4.2 - 4.4 show the typical breakdown of sector responsibilities while figures 5.1 – 5.3 examine the real-life network that emerges at different scales and synthesizes the sectors during redevelopment.

Looking at the high level of sector overlap challenges conventional notions of specific sector responsibilities and promotes a system whereby sector roles are more fluid and site-specific. Additionally, even if sector responsibilities remain highly compartmentalized, the overlaps within one given project area will necessitate the formation of partnerships regardless of preexisting sector fluidity.

Slums provide a thought-provoking and exciting case study for reevaluating sector roles, as they often require the support of multiple sectors, especially with regards to upgrading. Because they become a meeting ground of multiple interests and visions, slums are often sites of contention. Figures 5.1 – 5.3 offer visual insights into how slums can successfully function as ecosystems whereby sectors work side-by-side and, in certain cases, in tandem with one another.

The layout and geography of the visual supplements are based on an existing slum situated northeast of São Paulo, Cabuçu de Baixo 12 (figure 7). The area is currently the site of a redevelopment proposal (figure 8) that promotes vertical growth and waterfront development. The plans are the result of a private and public partnership in which the Municipal Secretary of Housing is employing a private architecture firm. While representatives from the firm claimed to have conducted feasibility studies in which community members were informed of the plans, few residents were aware that hundreds of preexisting dwellings would have to be removed to make way for the proposal.¹⁸ While a definite response to these invasive redevelopment plans, these renderings also serve as a theoretical representation of the breakdown of sector involvement in an idealized slum. These visual representations are an attempt to describe successful slum redevelopment as the culmination of multi-sector involvement.

While each sector has clearly defined parameters and assets, they come together in a way that blurs strict divisions. In this way, a given sector picks up where another left off and fills in the gaps rather than attempting to control an entire process. This might reveal itself in a recycling program that is run by an NGO that is able to educate and

¹⁸ These findings are the result of my own ethnographic fieldwork conducted in September of 2014 with the aid of a translator in Cabuçu de Baixo 12, São Paulo, Brazil.

facilitate within the community but becomes a municipal responsibility once collected by state workers. Or else, a school built by a private firm, paid for by public funds, and run by an NGO specializing in increasing technological literacy among young slum residents. It is instances of overlap like these that have proved to be overwhelmingly successful in case studies. Mathare 4A in Nairobi, for example, exhibited multiple instances of tri-sector overlap in specific project areas. Housing, for example, was paid for by the combined governments of Kenya and Germany, the process was overseen by the Catholic Church, and building materials were developed and implemented by private firms.

Tri-sector partnerships create an atmosphere of mutual oversight that fosters a system of checks and balances in an attempt to minimize the shortcomings of each sector: private-sector tendencies to avoid un-lucrative projects, state inefficiency and inability to deal with informality, and the voluntary sector's difficulty to provide resources or assets at large scale. Such partnerships foster productivity and rational resource use by minimizing inter-sector competition and utilizing the most effective approaches from multiple perspectives. While instances of successful single-sector initiatives certainly exist, as a general rule they are not the most effective solution to tackling the multifaceted and constantly evolving issue that is slum proliferation and redevelopment.

As figures 5.1 – 5.3 illustrate, sector roles do change at different scales. At the broadest scale of the neighborhood or the entire slum itself (figure 5.1), the government is the most effective player for leveraging substantial resources, like highway construction and electricity provision, and assessing issues of legality. The private sector begins to become a significant player when specific resources, like water access, sewage systems, and infrastructural development are brought into question. At this moment, private

sectors are able to supplement government projects with their specialized technical acumen. Moving further down the scale, NGOs are introduced to the process at the scale of housing construction to serve as a community liaison and to evaluate the social sensitivity of redevelopment (figure 5.2). NGOs can sometimes be involved with research for alternative building materials and the actual construction process. At this level, all three players have significant input and jurisdiction. Moving to the micro-level of specific community projects (urban farming, public art, etc.) education, religion, and emergency aid, NGOs become the most significant and qualified player (figure 5.3). Even at this level, however, their work can and should still draw on the strengths of other players. These kinds of relationships can still be fostered at a micro level, emphasizing the need for fourth party discourse at any moment along the spectrum.

The purpose of these visual supplements is to accentuate the need for sector overlap during the slum upgrading process. Slums, like the cities they are in direct conversation with, are a microcosm of the complexity and variability of human existence at large. They are as promising as they are distressing, as innovative as they are seemingly disorganized, and as important as they are neglected. Establishing partnerships between the state, private, and voluntary sectors maximizes resource distribution, allows participants to transcend the boundaries of traditional discourse, and is indebted to community interests through networks of accountability and transparency. As slums continue to grow, it is important that they are not viewed as a ‘third-world’ problem but rather as an fundamental and increasingly accurate indicator of the human condition on this planet.

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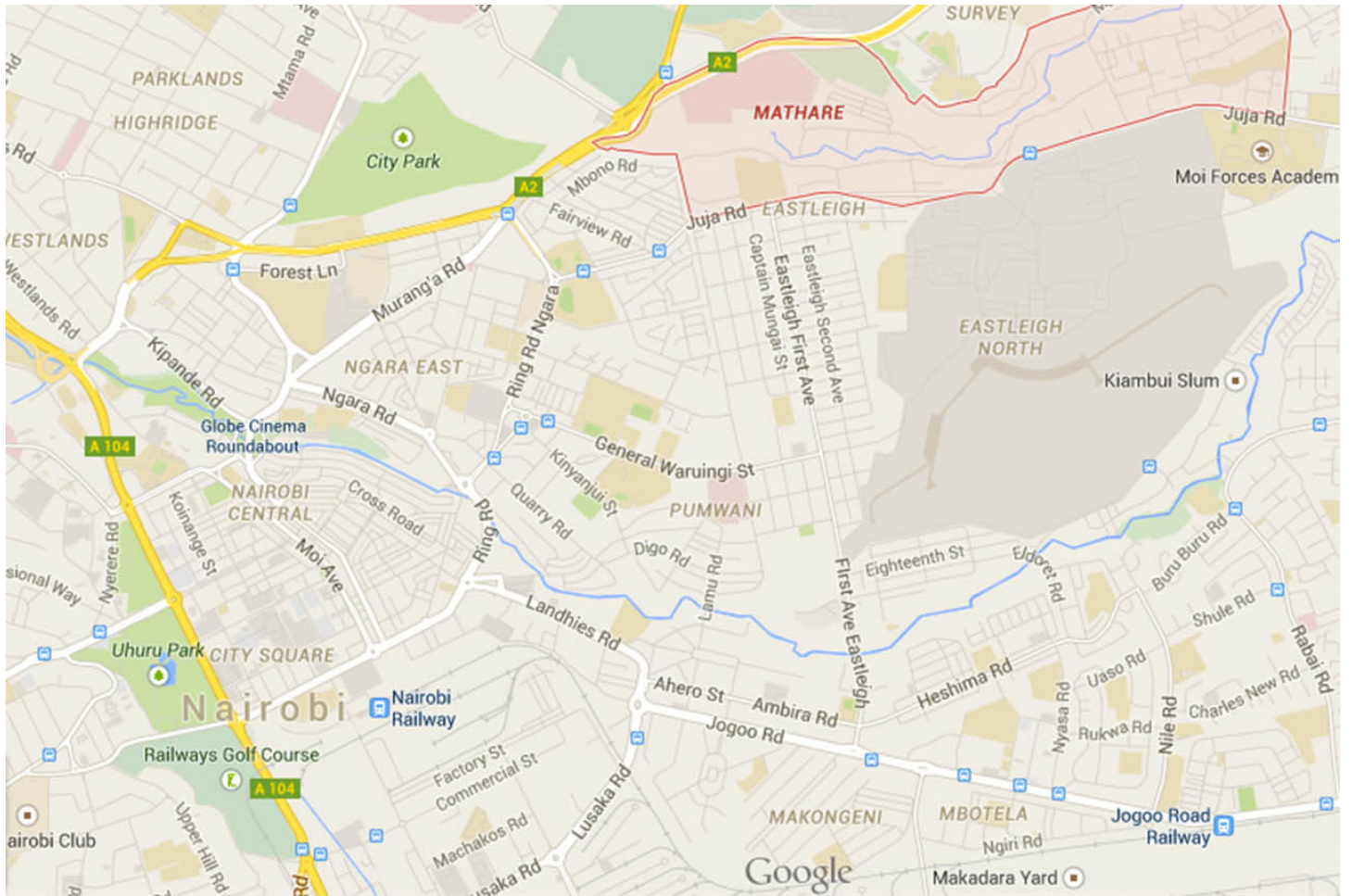


Figure 1.1 -Nairobi - Google Maps (2015)

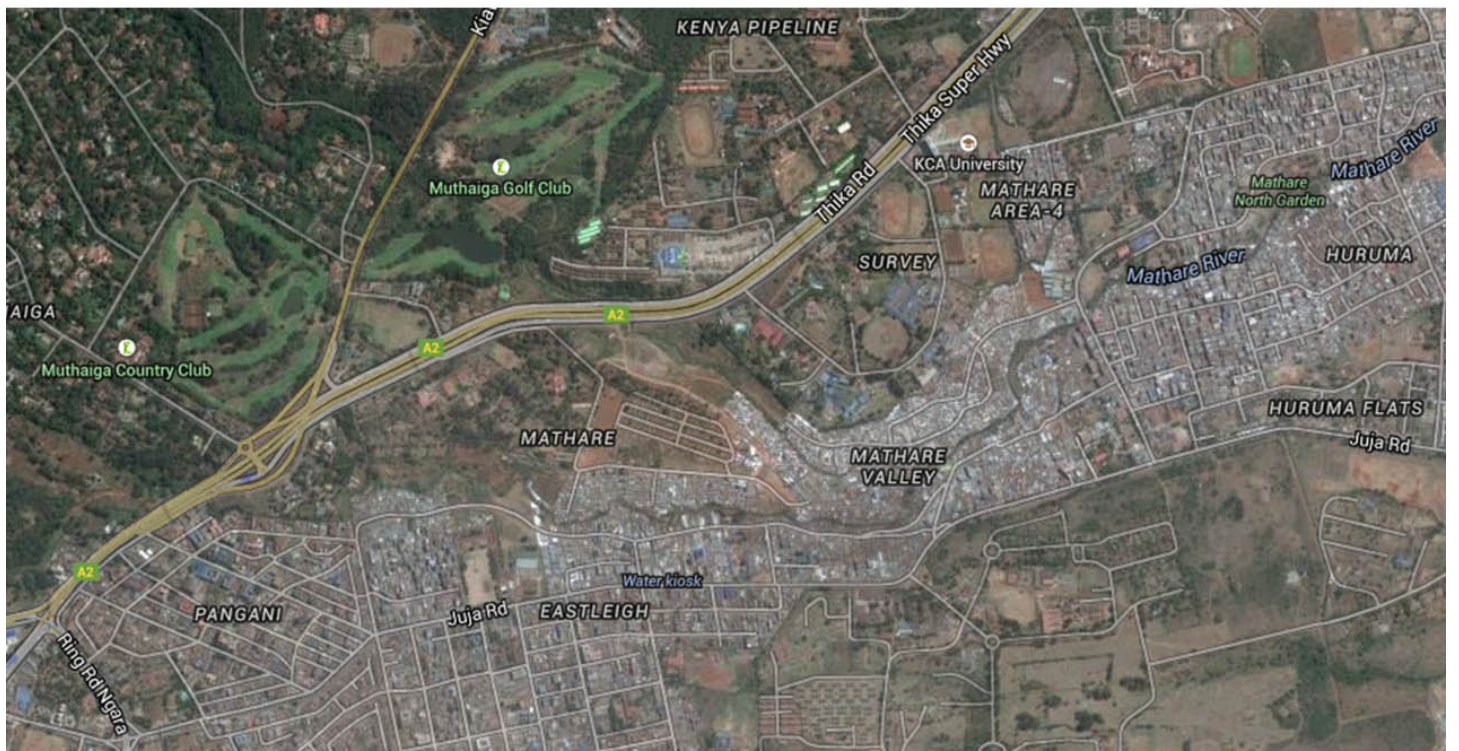


Figure 1.2 - Mathare Aerial - Google Maps (2015)



Figure 1.3 - Mathare 4A - Photo by Claudio Allia (2009)

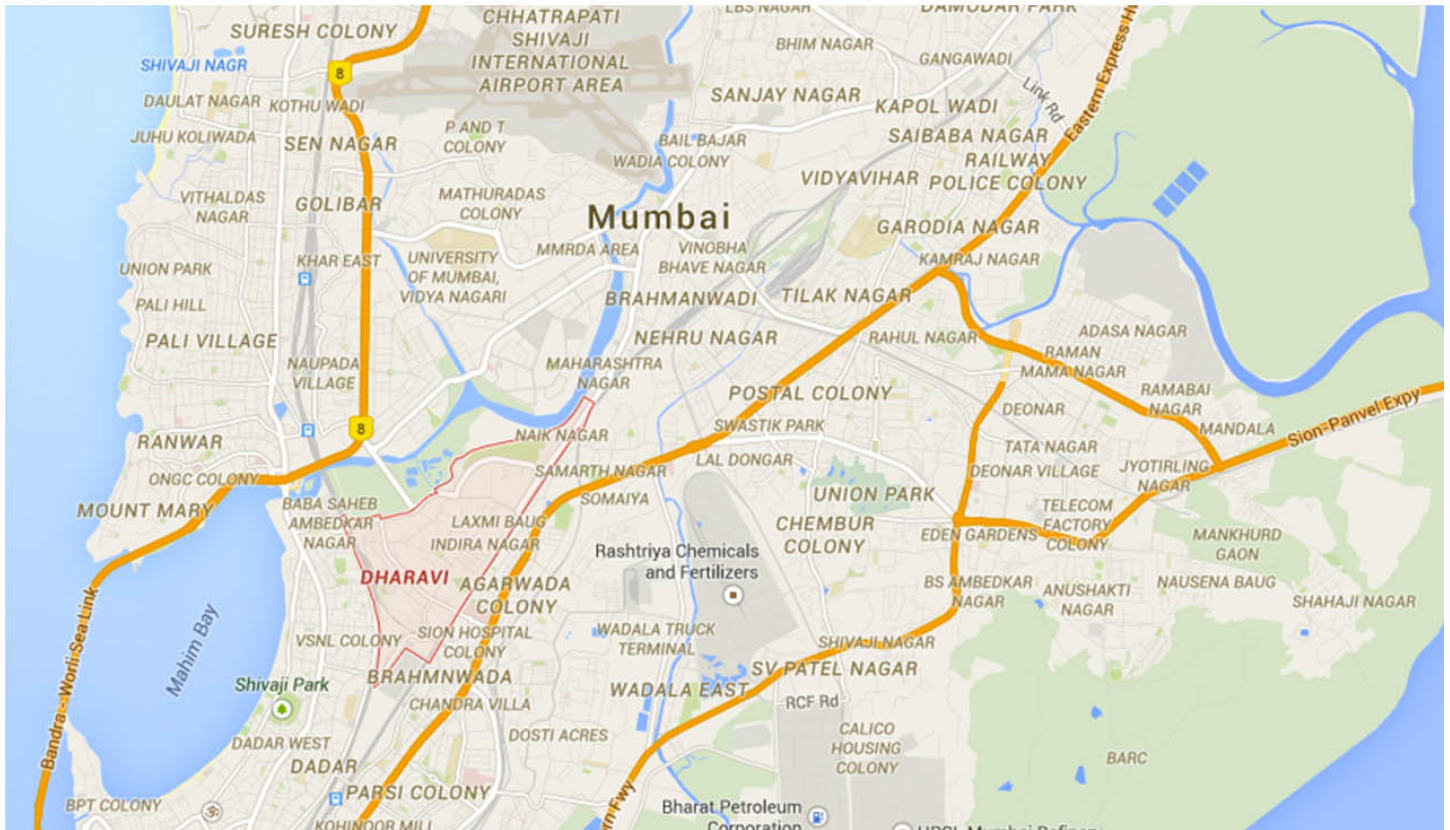


Figure 2.1 - Mumbai - Google Maps (2015)

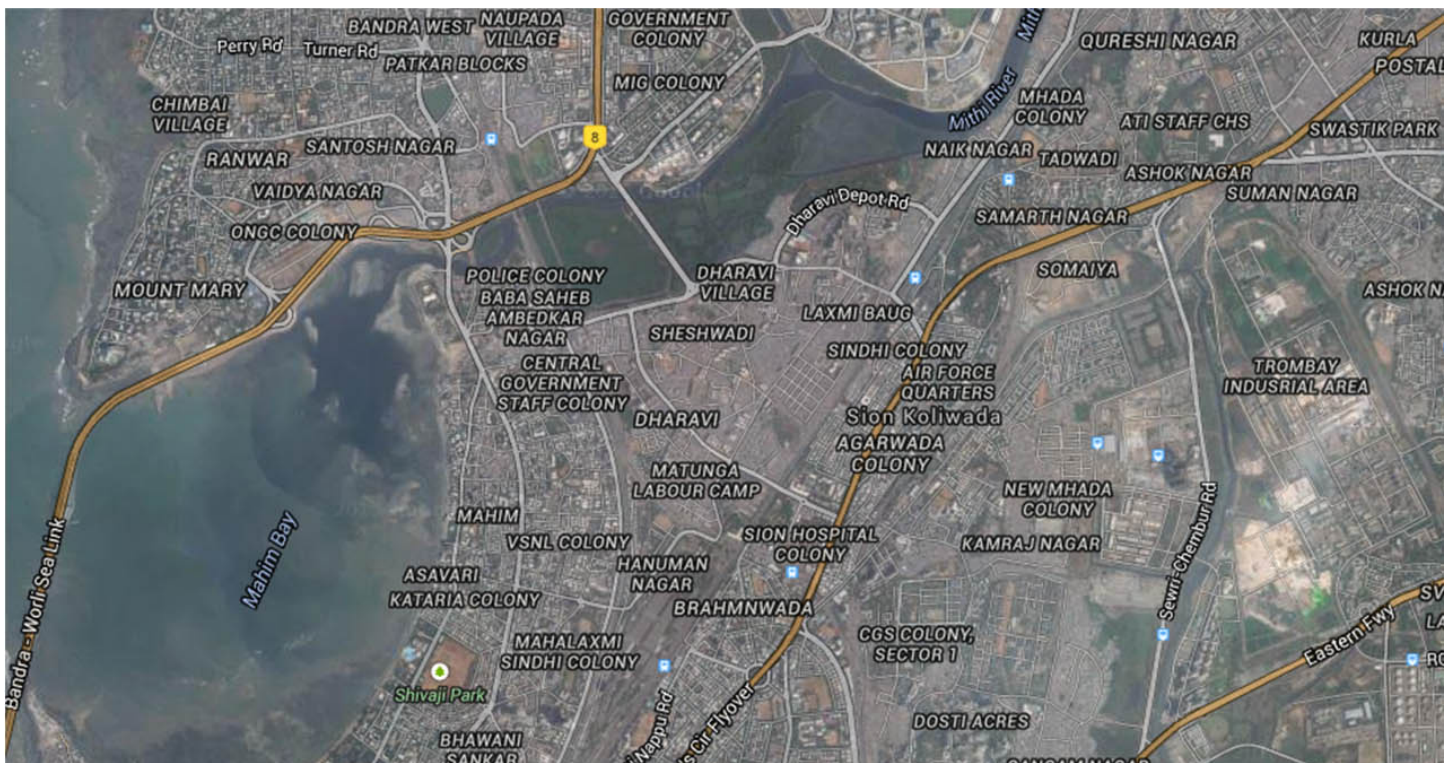


Figure 2.2 - Mumbai Aerial - Google Maps (2015)



Figure 2.3 - Dharavi - Photo by Chandrashekar Manalam (2013)



Figure 2.4 - Dharavi Plans - Foster & Partners (2013)

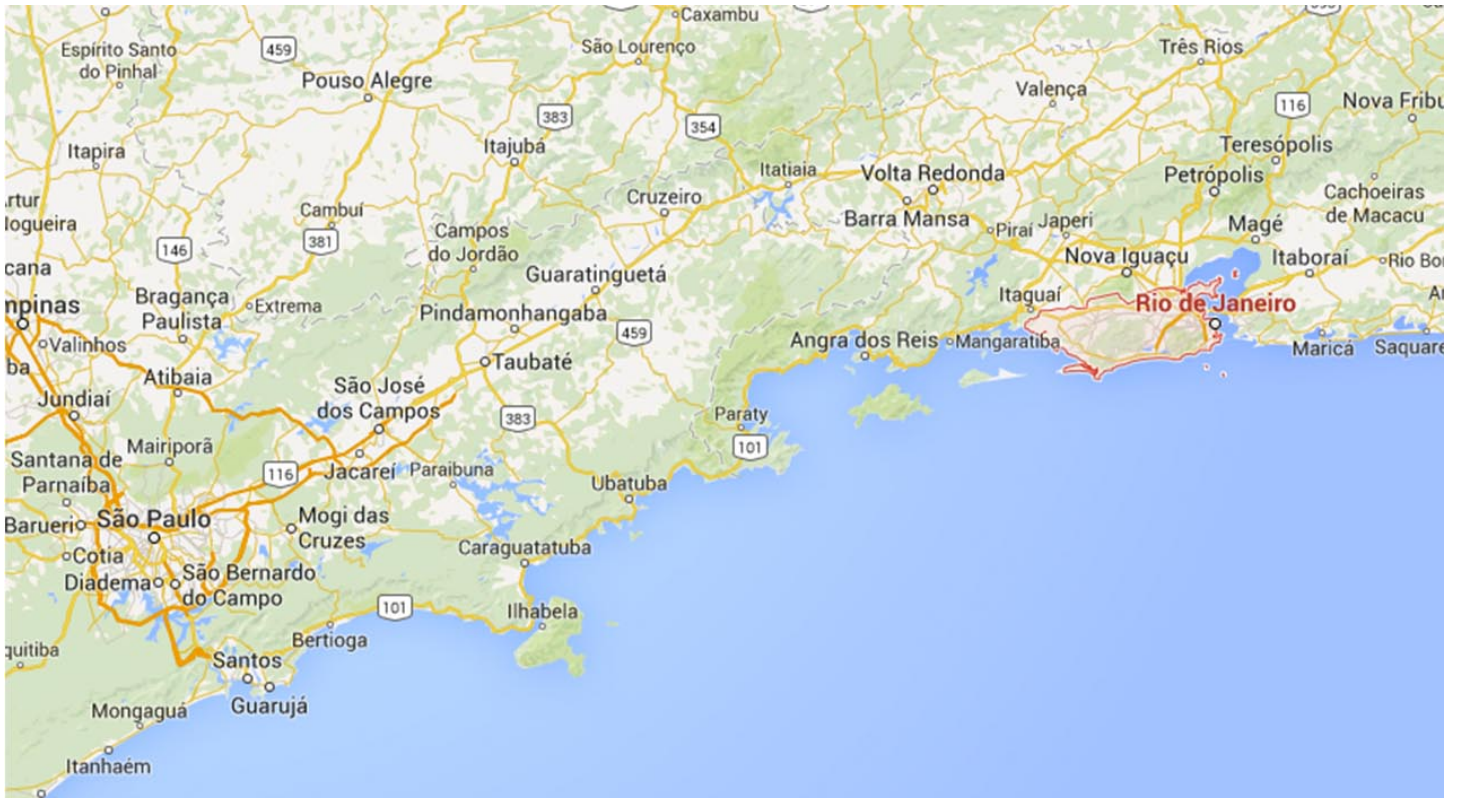


Figure 3.1 - Southeastern Brazil - Google Maps (2015)



Figure 3.2 - Favela Hocina, Rio - Photo by Rose Miyonga (2014)



Figure 3.3 - Morar Carioca Plans - CulturaMix (2014)

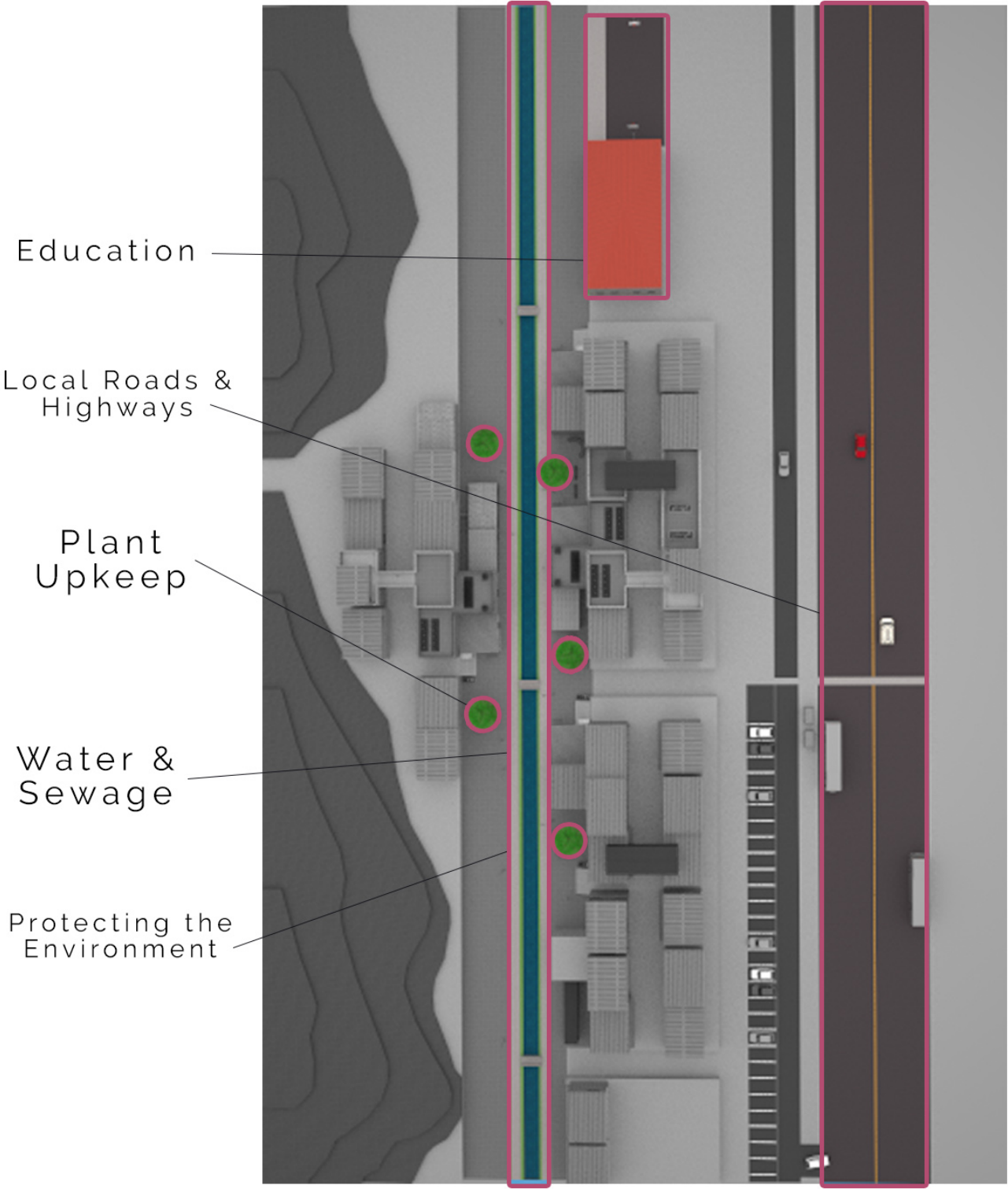
S I T E P L A N

Figure 4.1



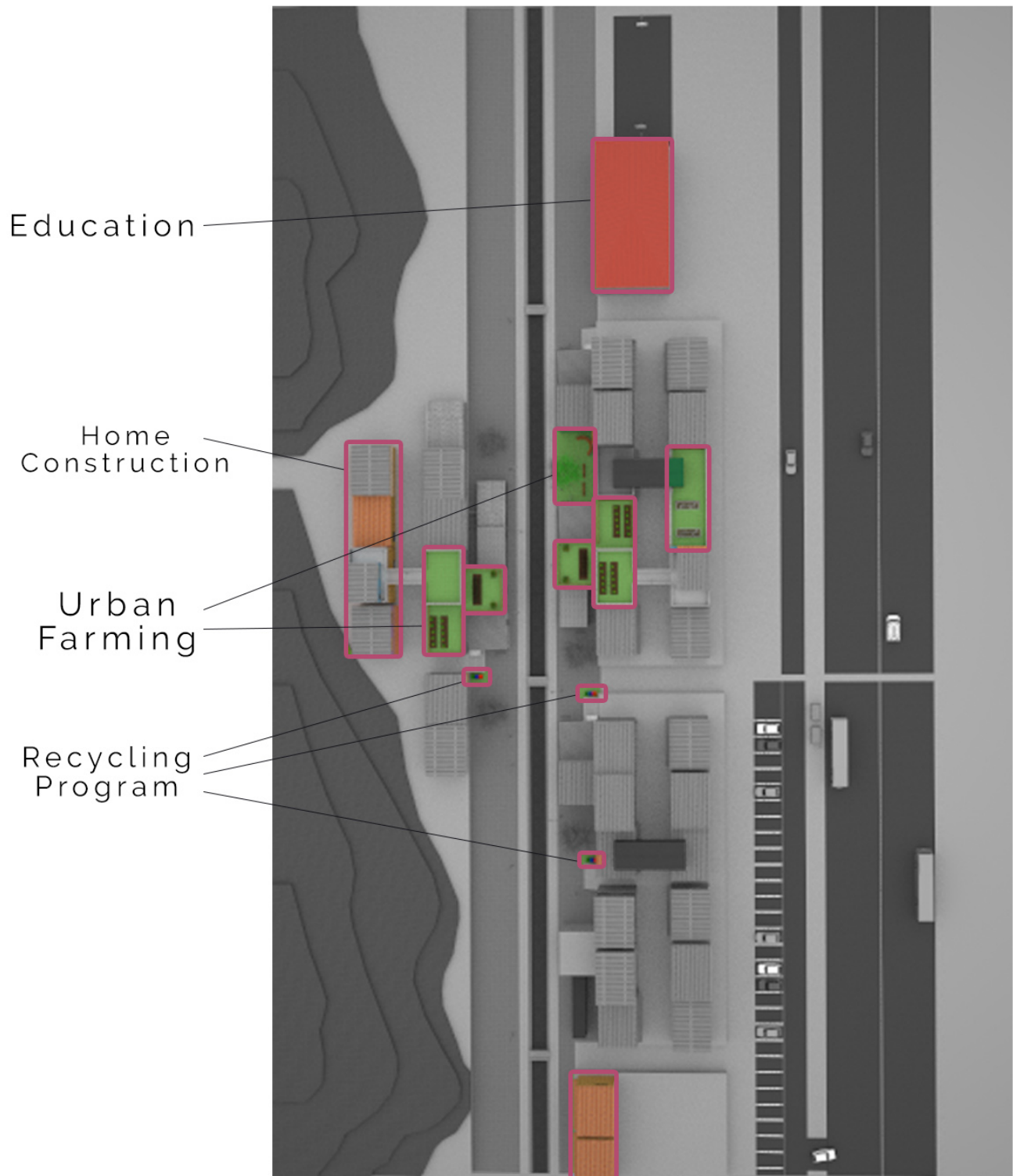
Cabuçu de Baixo 12
Proposal by Author

Figure 4.2



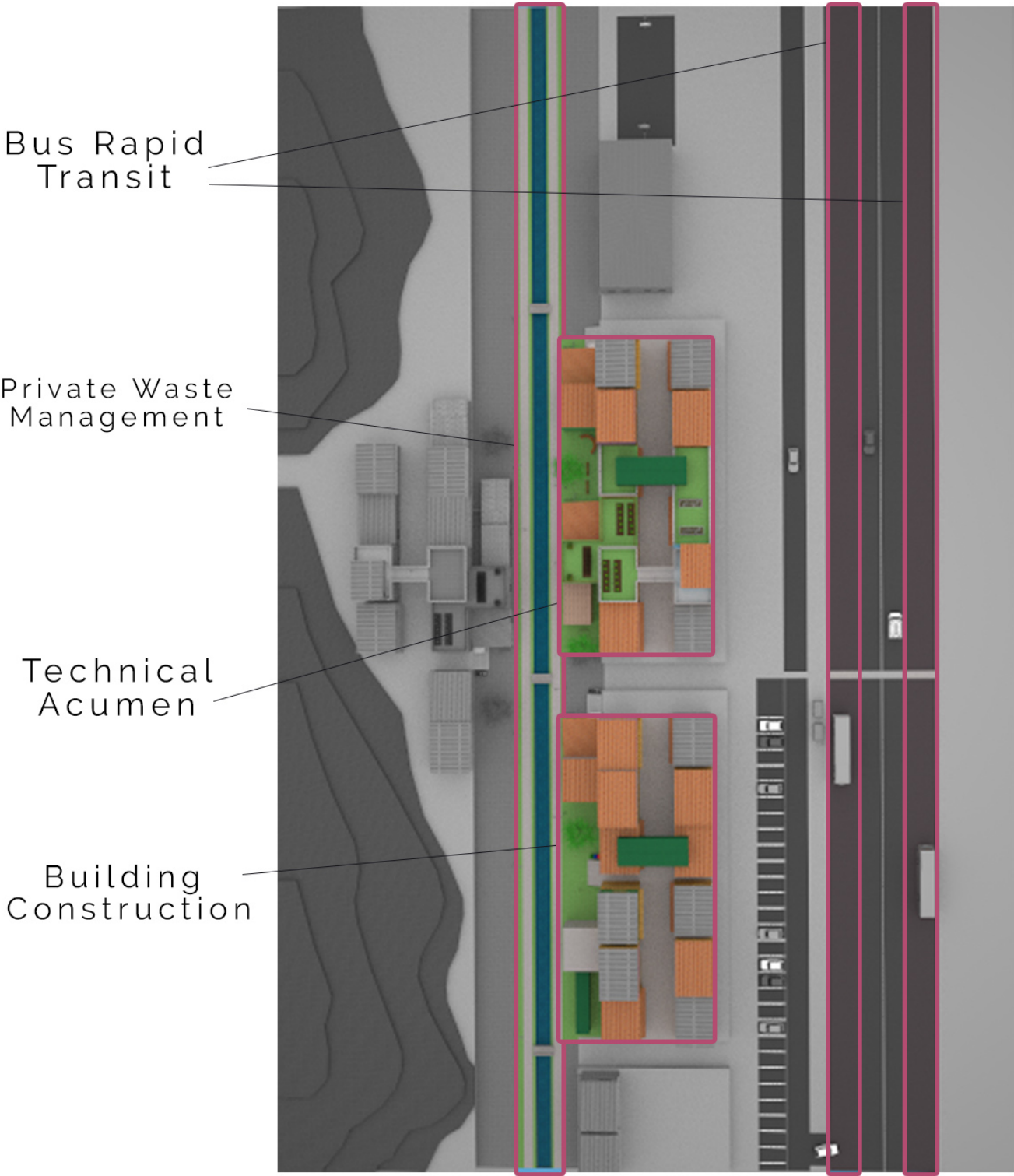
GOVERNMENT RESPONSIBILITIES

Figure 4.3



NON-GOVERNMENTAL

Figure 4.4



PRIVATE RESPONSIBILITIES

B
R
E
A
D
T
H

Education
Funding

Waste
Management

Subsidized
Housing

Road
Construction



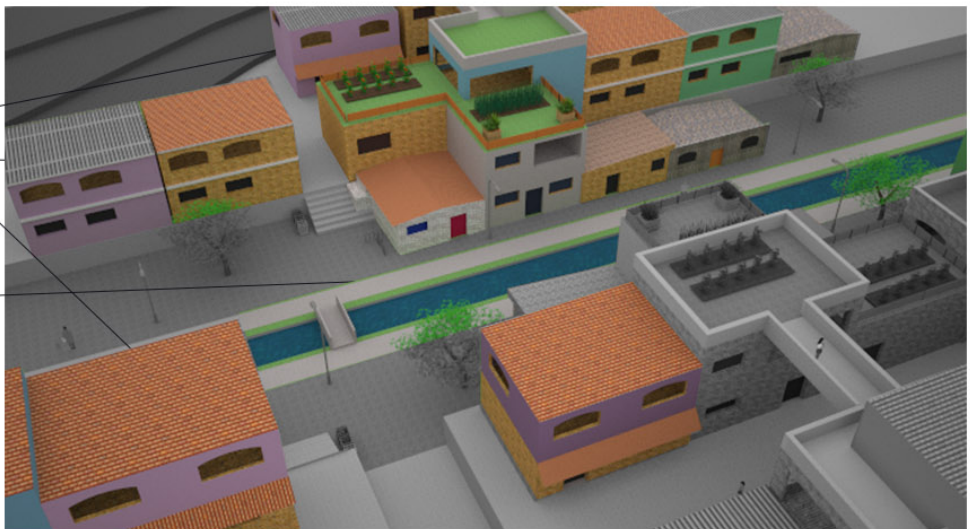
5
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1

Public - Private

S
C
A
L
E

Home
Construction

Waterfront
Renovation



5
.
2

Private - Public - Non-Governmental

Sustainable
Building
Materials

Rooftop
Farming



5
.
3

Non-Governmental - Private

D
E
P
T
H



Figure 6 - Cabuçu de Baixo 12 - Photo by Author (2013)



Figure 6.1 - CDB 12 Plans - Monica Drucker (2013)

Additional Views

Cabuçu de Baixo 12

